

P O W E R
- I N G ●
T O M O -
R R O W ●

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GR-CA-040-01

Global Leading

Distributed

Energy

Solution Provider

Middle East

2023

GROWATT

BRAND POWER

GLOBAL
NO.1

Residential Inverter Supplier

Favored by millions of families across the world, Growatt is the world's No.1 residential inverter supplier.

F R O S T & S U L L I V A N

GLOBAL
NO.1

User Side Energy Storage Inverter Supplier

Growatt is also the world's largest supplier of user-side energy storage inverter, according to Frost & Sullivan.

F R O S T & S U L L I V A N

GLOBAL
NO.3

PV Inverter Supplier

Additionally, Growatt is ranked the number three PV inverter supplier globally in shipment terms.

F R O S T & S U L L I V A N

ALL QUALITY MATTERS AWARD



At Growatt, we hold ourselves to comprehensive and strict engineering and quality control standards. Our unwavering commitment to quality underpins our global success. With first-rate product performance first-rate performance in numerous safety and reliability tests, we have received 'All Quality Matters Awards' by TÜV Rheinland for our MAX 80KTL3 MV inverter and ARK battery system.

TOP BRAND PV AWARDS



International market research company EUPD Research has recognized Growatt's preeminent brand position across global markets according to its surveys and analysis. The institute has presented Growatt with 'Top Brand PV Inverter' and 'Top Brand PV Storage' awards for achieving outstanding performance in terms of reliability, market penetration, brand awareness and satisfaction across global solar markets.

TECH INNOVATION

DOUBLE A+

LEADING EFFICIENCY

In 2014, Growatt 20KTL3-HE inverter received double A+ rating by PHOTON Lab with maximum efficiency exceeding 99%.

99.06%

140+

140+ PATENTS AND COPYRIGHTS

Our R&D team has achieved more than 140 patents and copyrights.

RELIABILITY MATTERS

From design to manufacturing, we've implemented a comprehensive and rigorous system to ensure high level of quality, reliability and performance as we expand production capacity to cater to rapidly growing global demand for our products. Our five-step quality engineering system includes Design Engineering, Component Engineering, Test Engineering, Reliability Engineering, and Manufacturing Engineering.



Design Engineering



Component Engineering



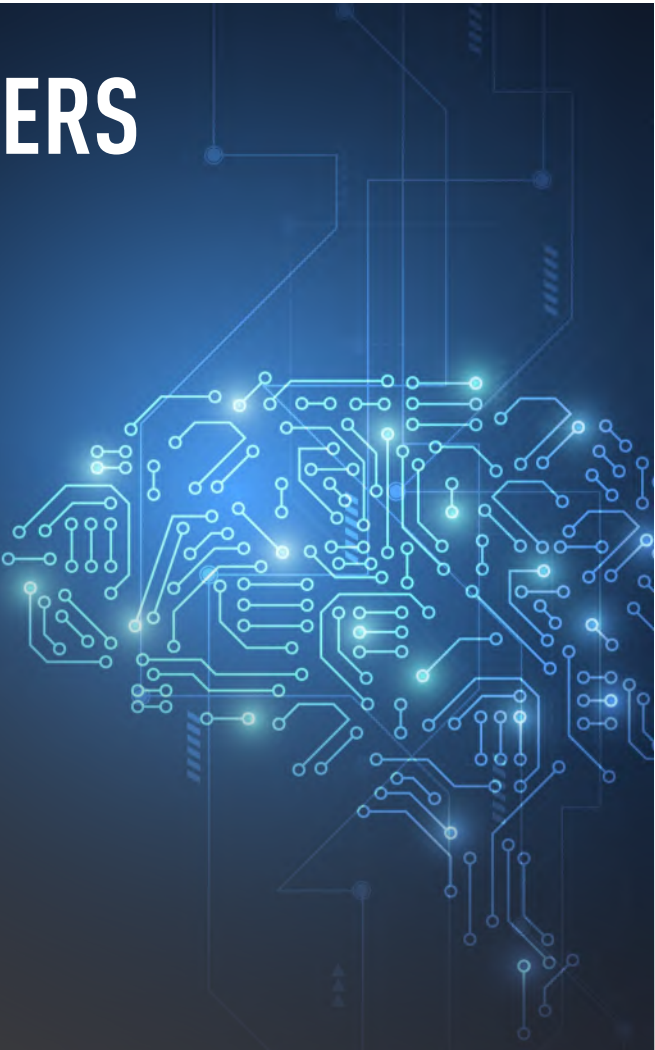
Test Engineering



Reliability Engineering



Manufacturing Engineering



GROWATT SMART PHOTOVOLTAIC INVERTER SERIES



Residential on-grid inverters



Commercial on-grid inverters



Large commercial and
utility grade on-grid inverters



Residential storage inverters



Residential off-grid inverters



Monitoring solutions

MIC 750~3300 TL-X



- Maximum efficiency of 97.6%
- Compact design
- Touch key& OLED display
- Flexible monitoring options
- AFCI optional

GROWATT · PRODUCT

Datasheet	MIC 750TL-X	MIC 1000TL-X	MIC 1500TL-X	MIC 2000TL-X	MIC 2500TL-X	MIC 3000TL-X	MIC 3300TL-X
Input data (DC)							
Max. recommended PV power (for module STC)	1050W	1400W	2100W	2800W	3500W	4200W	4290W
Max. DC voltage	500V	500V	500V	500V	550V	550V	550V
Start voltage	50V	50V	50V	50V	80V	80V	80V
Nominal voltage	120V	180V	250V	360V	360V	360V	360V
MPP voltage range	50V-500V	50V-500V	50V-500V	50V-500V	65V-550V	65V-550V	65V-550V
No. of MPP trackers	1						
No. of PV strings per MPP tracker	1						
Max. input current per MPP tracker	13A						
Max. short-circuit current per MPP tracker	16A						
Output data (AC)							
AC nominal power	750W	1000W	1500W	2000W	2500W	3000W	3300W
Max. AC apparent power	750VA	1000VA	1500VA	2000VA	2500VA	3000VA	3300VA
Nominal AC voltage(range*)	230V (180-280V)						
AC grid frequency(range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	3.6A	4.8A	7.1A	9.5A	11.9A	14.3A	14.3A
Adjustable power factor	0.8leading...0.8lagging						
THDi	<3%						
AC grid connection type	Single phase						
Efficiency							
Max. efficiency	97.4%	97.4%	97.4%	97.4%	97.6%	97.6%	97.6%
European efficiency	96.5%	96.5%	97.0%	97.0%	97.0%	97.1%	97.1%
MPPT efficiency	99.9%						
Protection devices							
DC reverse polarity protection	Yes						
DC switch	Yes						
AC/DC surge protection	Type III / Type III						
Insulation resistance monitoring	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Anti-islanding protection	Yes						
Residual-current monitoring unit	Yes						
AFCI protection	Optional						
General data							
Dimensions (W / H / D)	274/254/138mm						
Weight	6kg	6kg	6kg	6kg	6.2kg	6.2kg	6.2kg
Operating temperature range	-25°C ... +60°C						
Nighttime power consumption	< 0.5W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP65						
Relative humidity	0-100%						
Altitude	4000m						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: RS485 / USB/Wi-Fi/ GPRS/ RF/LAN	Yes/Yes/Optional/Optional/Optional /Optional						
Warranty: 5 years / 10 years	Yes /Optional						
CE,AS4777, AS/NZS 3100, CEI 0-21, VDE-AR-N 4105, VDE 0126-1-1, UTE C 15-712-1, EN50549, IEC 60068, IEC 61683, IEC 62116, IEC 61727, INMETRO, G98, C10/C11, UNE217001, UNE206007, PO12.2							

* The AC voltage and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

MIN 2500~6000 TL-X



- Maximum efficiency 98.4%
- Dual MPP trackers
- Type II SPD on DC side
- Supports export control
- Touch key and OLED display
- Data storage up to 25 years



GROWATT · PRODUCT

Datasheet	MIN 2500TL-X	MIN 3000TL-X	MIN 3600TL-X	MIN 4200TL-X	MIN 4600TL-X	MIN 5000TL-X	MIN 6000TL-X
Input Data (DC)							
Max. recommended PV power (for module STC)	3500W	4200W	5040W	5880W	6440W	7000W	8100W
Max. DC voltage	500V	500V	550V	550V	550V	550V	550V
Start voltage	100V						
Nominal voltage	360V						
MPP voltage range	80V-500V	80V-500V	80V-550V	80V-550V	80V-550V	80V-550V	80V-550V
No. of MPP trackers	2						
No. of PV strings per MPP tracker	1						
Max. input current per MPP tracker	13.5A*						
Max. short-circuit current per MPP tracker	16.9A						
Output data (AC)							
AC nominal power	2500W	3000W	3600W	4200W	4600W	5000W	6000W
Max. AC apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA	6000VA
Nominal AC voltage (range*)	230V (180-280V)						
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	11.3A	13.6A	16A	19A	20.9A	22.7A	27.2A
Adjustable power factor	0.8leading...0.8lagging						
THDi	<3%						
AC grid connection type	Single phase						
Efficiency							
Max. efficiency	98.2%	98.2%	98.2%	98.4%	98.4%	98.4%	98.4%
European efficiency	97.1%	97.1%	97.2%	97.5%	97.5%	97.5%	97.5%
MPPT efficiency	99.9%						
Protection Devices							
DC reverse polarity protection	yes						
DC switch	yes						
AC/DC surge protection	Type III / Type II						
Insulation resistance monitoring	yes						
AC short-circuit protection	yes						
Ground fault monitoring	yes						
Grid monitoring	yes						
Anti-islanding protection	yes						
Residual-current monitoring unit	yes						
AFCI protection	Optional						
General Data							
Dimensions (W / H / D)	375/350/160mm						
Weight	10.8kg						
Operating temperature range	-25°C ... +60°C						
Noise emission (typical)	≤35 dB(A)						
Nighttime power consumption	< 1W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP65						
Relative humidity	0-100%						
Altitude	4000m						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: RS485 / USB/Wi-Fi/ GPRS/ RF/LAN	Yes/Yes/Optional/Optional/Optional /Optional						
Warranty: 5 years / 10 years	Yes /Optional						
CE, IEC62109, VDE0126-1-1, AS4777, AS/NZS 3100, VDE-AR-N4105, CQC, IEC61683, IEC60068, IEC61727, IEC62116, INMETRO							

* Only the latest version with max. input current 13.5A per MPP tracker, for details please contact Growatt.
* The AC voltage and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.



- Max. efficiency 98.4%
- Dual MPP trackers
- Type II SPD on DC side
- Battery ready, future proof
- 24h self-consumption monitoring

GROWATT · PRODUCT

Datasheet	MIN 2500TL-XH	MIN 3000TL-XH	MIN 3600TL-XH	MIN 4200TL-XH	MIN 4600TL-XH	MIN 5000TL-XH	MIN 6000TL-XH
Input data (DC)							
Max. recommended PV power (for module STC)	5000W	6000W	7200W	8400W	9200W	10000W	10000W
Max. DC voltage	500V	500V	550V	550V	550V	550V	550V
Start voltage				100V			
Nominal voltage				360V			
MPP voltage range	70V-500V	70V-500V	70V-550V	70V-550V	70V-550V	70V-550V	70V-550V
No. of MPP trackers/strings per MPP tracker				2/1			
Max. input current per MPP tracker				13.5A			
Max. short-circuit current per MPP trackers				16.9A			
Input data (DC battery)							
Compatible battery	ARK XH Battery System (5.12kWh~17.9kWh)						
Operating voltage range	360-500V	360-500V	360-550V	360-550V	360-550V	360-550V	360-550V
Max.operating current				17A			
Max.charge power				6000W			
Max.discharge power	2500W	3000W	3600W	4200W	4600W	5000W	6000W
Output data (AC)							
AC nominal power	2500W	3000W	3600W	4200W	4600W	5000W	6000W
Max. AC apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA	6000VA
Nominal AC voltage(range*)	230V (180-280V)						
AC grid frequency(range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	11.3A	13.6A	16A	19A	20.9A	22.7A	27.2A
Adjustable power factor	0.8leading...0.8lagging						
THDi	<3%						
AC grid connection type	Single phase						
Output data (Backup*)							
Max. apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA	6000VA
Nominal AC voltage	230V						
AC grid frequency	50/60Hz						
Efficiency							
Max.efficiency	98.2%	98.2%	98.2%	98.4%	98.4%	98.4%	98.4%
European efficiency	97.1%	97.1%	97.2%	97.2%	97.5%	97.5%	97.5%
MPPT efficiency	99.9%						
Protection devices							
DC reverse polarity protection				Yes			
DC switch				Yes			
DC/AC surge protection				Type II/Type III			
Insulation resistance monitoring				Yes			
AC short-circuit protection				Yes			
Ground fault monitoring				Yes			
Grid monitoring				Yes			
Anti-islanding protection				Yes			
Residual-current monitoring unit				Yes			
AFCI protection				Optional			
General data							
Dimensions (W / H / D)	375/350/160mm						
Weight	10.8kg						
Operating temperature range	-25°C ... +60°C						
Altitude	4000m						
Self-Consumption night	<3W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP65						
Relative humidity	0%~100%						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: RS485 / USB/WI-FI/ GPRS/ RF/LAN	Yes/Yes/Optional/Optional/Optional /Optional						
Warranty: 5 years / 10 years	Yes /Optional						
CE, IEC62109, AS/NZS 4777.2, CEI 0-21, VDE-AR-N 4105, VDE 0126-1-1, UTE C 15-712-1,EN 50549, IEC 62116, IEC 61727, G98/G99							

* The AC voltage and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

* Backup power function need a Backup Box accessory.

MOD 3000~9000 TL3-X



- Max. efficiency 98.6%
- OLED and Touch button
- Type II SPD on DC and AC side
- String Monitoring
- AFCI optional



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Datasheet	MOD 3000TL3-X	MOD 4000TL3-X	MOD 5000TL3-X	MOD 6000TL3-X	MOD 7000TL3-X	MOD 8000TL3-X	MOD 9000TL3-X
Input data (DC)							
Max. recommended PV power (for module STC)	4500W	6000W	7500W	9000W	10500W	12000W	13500W
Max. DC voltage	1100V						
Start voltage	160V						
Nominal voltage	580V						
MPPT voltage range	140V-1000V						
No. of MPP trackers	2						
No. of PV strings per MPP tracker	1						
Max. input current per MPP tracker	13A						
Max. short-circuit current per MPP tracker	16A						
Output data (AC)							
AC nominal power	3000W	4000W	5000W	6000W	7000W	8000W	9000W
Max. AC apparent power	3300VA	4400VA	5500VA	6600VA	7700VA	8800VA	9900VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)						
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	5.0A	6.7A	8.3A	10.0A	11.7A	13.3A	15.0A
Adjustable power factor	0.8leading...0.8lagging						
THDI	<3%						
AC grid connection type	3W+N+PE						
Efficiency							
MAX. efficiency	98.3%	98.3%	98.3%	98.3%	98.6%	98.6%	98.6%
European efficiency	97.5%	97.5%	97.5%	97.5%	98.1%	98.1%	98.1%
MPPT efficiency	99.9%						
Protection devices							
DC reverse polarity protection	Yes						
DC Switch	Yes						
AC/DC surge protection	Type II / Type II						
Insulation resistance monitoring	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Anti-islanding protection	Yes						
Residual-current monitoring unit	Yes						
String fault monitoring	Yes						
AFCI protection	Optional						
General data							
Dimensions (W / H / D)	425/387/147mm	425/387/147mm	425/387/147mm	425/387/147mm	425/387/178mm	425/387/178mm	425/387/178mm
Weight	12.5kg	12.5kg	12.5kg	12.5kg	14kg	14kg	14kg
Operating temperature range	- 25°C ... +60°C						
Nighttime power consumption	< 1W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP66						
Relative humidity	0~100%						
Altitude	4000m						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: USB/RS485/WIFI /GPRS/LAN/RF	yes/yes/Optional/Optional/Optional/Optional						
Warranty: 5 / 10 years	Yes/Optional						
CE, VDE0126, Greece, EN50549, C10/C11, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS4777, UNE217001, UNE206007, PO12.2							

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

MOD 10~15K TL3-X



- Max. efficiency 98.6%
- OLED and Touch button
- Type II SPD on DC and AC side
- String Monitoring
- AFCI optional



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Datasheet	MOD 10KTL3-X	MOD 11KTL3-X	MOD 12KTL3-X	MOD 13KTL3-X	MOD 15KTL3-X
Input data (DC)					
Max. recommended PV power (for module STC)	15000W	16500W	18000W	19500W	22500W
Max. DC voltage	1100V				
Start voltage	160V				
Nominal voltage	580V				
MPPT voltage range	140V-1000V				
No. of MPP trackers	2				
No. of PV strings per MPP tracker	1	1	1/2	1/2	1/2
Max. input current per MPP tracker	13A	13A	13/26A	13/26A	13/26A
Max. short-circuit current per MPP tracker	16A	16A	16/32A	16/32A	16/32A
Output data (AC)					
AC nominal power	10000W	11000W	12000W	13000W	15000W
Max. AC apparent power	11000VA*	12100VA	13200VA	14300VA	16500VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)				
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)				
Max. output current	16.7A	18.3A	20A	21.7A	25A
Adjustable power factor	0.8leading...0.8lagging				
THDi	< 3%				
AC grid connection type	3W+N+PE				
Efficiency					
MAX. efficiency	98.6%				
European efficiency	98.1%	98.1%	98.2%	98.2%	98.2%
MPPT efficiency	99.9%				
Protection devices					
DC reverse polarity protection	Yes				
DC Switch	Yes				
AC/DC surge protection	Type II / Type II				
Insulation resistance monitoring	Yes				
AC short-circuit protection	Yes				
Ground fault monitoring	Yes				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Residual-current monitoring unit	Yes				
String fault monitoring	Yes				
AFCI protection	Optional				
General data					
Dimensions (W / H / D)	425/387/178mm				
Weight	14kg	14kg	16kg	16kg	16kg
Operating temperature range	- 25°C ... +60°C				
Nighttime power consumption	< 1W				
Topology	Transformerless				
Cooling	Natural convection				
Protection degree	IP66				
Relative humidity	0~100%				
Altitude	4000m				
DC connection	H4/MC4(Optional)				
AC connection	Connector				
Display	OLED+LED/WIFI+APP				
Interfaces: USB/RS485/WIFI /GPRS/LAN/RF	yes/yes/Optional/Optional/Optional/Optional				
Warranty:5 years / 10 years	Yes/Optional				
CE, VDE0126, Greece, EN50549, C10/C11, VFR 2019, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS4777, UNE217001, UNE206007, PO12.2					

* For Belgium C10/C11, MOD 10KTL3-X max. output power is limit to 10000VA.
* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

MID 15~25K TL3-X



- Max. efficiency 98.75%
- Dual MPP trackers
- Supports export control
- Touch key and OLED display
- Type II SPD on AC and DC side

GROWATT · PRODUCT

Datasheet	MID 15KTL3-X	MID 17KTL3-X	MID 20KTL3-X	MID 22KTL3-X	MID 25KTL3-X
Input data (DC)					
Max. recommended PV power (for module STC)	22500W	25500W	30000W	33000W	37500W
Max. DC voltage	1100V				
Start Voltage	250V				
Nominal voltage	580V				
MPPT voltage range	160V-1000V				
No. of MPP trackers	2				
No. of PV strings per MPP tracker	2	2	2	2	2/3
Max. input current per MPPT tracker*	27A	27A	27A	27A	27A/40.5A
Max. short circuit current per MPPT	33.8A	33.8A	33.8A	33.8A	33.8A/50.7A
Output data (AC)					
Rated AC output power	15000W	17000W	20000W	22000W	25000W
Max. AC apparent power	16600VA	18800VA	22000VA	24400VA	27700VA
Nominal AC voltage(range*)	220V/380V, 230V/400V (340-440V)				
AC grid frequency;(range*)	50/60 Hz (45-55Hz/55-65 Hz)				
Max. output current	24.2A	27.4A	31.9A	35.5A	40.2A
Adjustable power factor	0.8leading...0.8lagging				
THDi	<3%				
AC grid connection type	3W + N + PE				
Efficiency					
Max.efficiency			98.75%		
European efficiency			98.6%		
MPPT efficiency			99.9%		
Protection devices					
DC reverse polarity protection	Yes				
DC Switch	Yes				
AC/DC surge protection	TypeII/Type II				
Insulation resistance monitoring	Yes				
AC short-circuit protection	Yes				
Ground fault monitoring	Yes				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Residual-current monitoring unit	Yes				
String monitoring	Yes				
AFCI protection	Optional				
General data					
Dimensions (W / H / D)	525/395/222mm				
Weight	23kg				
Operating temperature range	-25 °C ... +60 °C				
Self-Consumption (night)	<1W				
Topology	Transformerless				
Cooling	Smart air cooling				
Protection degree	IP65				
Relative Humidity	0~100%				
Altitude	4000m				
DC connection	H4/MC4(Optional)				
AC connection	Cable gland+ OT terminal				
Display	OLED + LED/WIFI + APP				
Interfaces: RS485 / USB / WIFI/ GPRS / RF/ LAN	Yes/Yes /Optional/Optional/Optional/Optional				
Warranty: 5 years / 10 years	Yes /Optional				

CE, VDE0126, Greece, EN50549, C10/C11, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger, G98/G99, G100, UNE217001, UNE206007, PO12.2, KSC8565

* The AC voltage range and frequency range may vary depending on specific country grid standard.All specifications are subject to change without notice.

* Only the latest version with max. input current 13.5A per string, for details please contact Growatt.

MID 25~40K TL3-X



- The maximum efficiency is up to 98.8%
- AFCI function optional
- Self-consumption monitoring
- Touch key and OLED display
- Type II SPD on DC and AC side

GROWATT · PRODUCT

Datasheet	MID 25KTL3-X1	MID 30KTL3-X	MID 33KTL3-X	MID 36KTL3-X	MID 40KTL3-X
Input data (DC)					
Max. recommended PV power (for module STC)	37500W	45000W	49500W	54000W	60000W
Max. DC voltage	1100V				
Start Voltage	250V				
Normal Voltage	600V				
MPPT voltage range	200-1000V				
No. of MPP trackers	3	3	3	4	4
No. of PV strings per MPP tracker	2				
Max.input current per MPP tracker	26A				
Max. short-circuit current per MPP tracker	32A				
Output data (AC)					
AC nominal power	25000W	30000W	33000W	36000W	40000W
Max. AC apparent power	27700VA	33300VA	36600VA	39600VA	44000VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)				
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)				
Max. output current	40A	50.5A	55.5A	60.0A	66.6A
Adjustable power factor	0.8leading...0.8lagging				
THDi	<3%				
AC grid connection type	3W + N + PE				
Efficiency					
Max.efficiency	98.8%				
European efficiency	98.5%				
MPPT efficiency	99.9%				
Protection devices					
DC reverse polarity protection	Yes				
DC Switch	Yes				
AC/DC surge protection	Type II / Type II				
Insulation resistance monitoring	Yes				
AC short-circuit protection	Yes				
Ground fault monitoring	Yes				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Residual-current monitoring unit	Yes				
String monitoring	Yes				
AFCI protection	Optional				
General data					
Dimensions (W / H / D)	580/435/230mm				
Weight	29.5kg	29.5kg	29.5kg	30.5kg	30.5kg
Operating temperature range	- 25°C ... +60°C				
Nighttime power consumption	< 1W				
Topology	Transformerless				
Cooling	Smart air cooling				
Protection degree	IP66				
Relative humidity	0-100%				
Altitude	4000m				
DC connection	H4/MC4(Optional)				
AC connection	Cable gland+OT terminal				
Display	OLED+LED/WIFI+APP				
Interfaces: RS485 / USB / WIFI/ GPRS / RF/ LAN	Yes/Yes/Optional/Optional/Optional/Optional				
Warranty: 5 years / 10 years	Yes/Optional				
CE, VDE0126, Greece, EN50549, C10/C11, UTE C 15-712, IEC62116,IEC61727, IEC 60068, IEC 61683, CEI0-21, CEI0-16, N4105, TOR Erzeuger, G98/G99, G100, AS/NZS 3100, AS4777, UNE217001, UNE206007, PO12.2, KSC8565					

*The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

MAX 50~80K TL3 LV



- 6 /7MPPTs
- Smart diagnosis
- High efficiency up to 99%
- Local WIFI configuration
- String monitoring
- AC&DC type II SPD
- AFCI protection
- Data storage up to 25 years
- DC side 2 in 1 connection enabled

GROWATT · PRODUCT

Datasheet	MAX 50KTL3 LV	MAX 60KTL3 LV	MAX 70KTL3 LV	MAX 80KTL3 LV
Input data (DC)				
Max. recommended PV power (for module STC)	75000W	90000W	105000W	120000W
Max.DC voltage	1100V			
Start voltage	250V			
Nominal voltage	585V	585V	600V	600V
MPPT voltage range	200V-1000V			
No. of MPP trackers	6	6	7	7
No. of PV strings per MPP tracker	2			
Max. input current per MPP tracker	26A			
Max. short-circuit current per MPP tracker	32A			
Output data (AC)				
AC nominal power	50000W	60000W	70000W	80000W
Max. AC apparent power	55500VA	66600VA	77700VA	88800VA
Nominal AC voltage(range*)	220V/380V, 230V/400V (340-440V)			
AC grid frequency(range*)	50/60 Hz (45-55Hz/55-65 Hz)			
Max. output current	80.5A	96.6A	112.7A	128.8A
Adjustable power factor	0.8leading ...0.8lagging			
THDi	<3%			
AC grid connection type	3W+N+PE			
Efficiency				
Max.efficiency	98.8%	98.8%	99%	99%
European efficiency	98.4%	98.4%	98.5%	98.5%
MPPT efficiency	99.9%			
Protection devices				
DC reverse polarity protection	Yes			
DC switch	Yes			
DC surge protection	Type II / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
Grid monitoring	Yes			
Anti-islanding protection	Yes			
Residual-current monitoring unit	Yes			
String monitoring	Yes			
AFCI protection	Yes			
General data				
Dimensions (W / H / D)	860/600/300mm			
Weight	82kg	82kg	86kg	86kg
Operating temperature range	-25°C ... +60°C			
Self-consumption	< 1W			
Topology	Transformerless			
Cooling	Smart air cooling			
Protection degree	IP65			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	H4/MC4(Optional)			
AC connection	Cable gland+OT terminal			
Display	LED/WIFI+APP			
Interfaces: RS485 / USB /WIFI/ RF/GPRS	Yes/Yes /Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes /Optional			
CE , VDE0126, Greece, EN50438, EN50549, C10/C11, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, CEI 0-16, N4105, BDEW, DRRG, TOR Erzeuger G98/G99, G100, AS/NZS3100, AS4777, UNE217001, UNE206007, PO12.2, NRS 097-2-1, MEA , PEA , KSC8565				

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

MAX 100~125K TL3-X LV



- 10 MPPTs fusefree design
- Smart I/V scan and diagnosis
- Intelligent string monitoring
- AC&DC type II SPD
- IP66 and C5 protection

GROWATT · PRODUCT

Datasheet	MAX 100KTL3-X LV		MAX 110KTL3-X LV		MAX 120KTL3-X LV		MAX 125KTL3-X LV	
Input data (DC)								
Max. DC voltage					1100V			
Start voltage					195V			
Nominal voltage					600V			
MPP voltage range					180V-1000V			
No. of MPP trackers					10			
No. of PV strings per MPP tracker					2			
Max. input current per MPP tracker					32A			
Max. short-circuit current per MPP tracker					40A			
Output data (AC)								
AC nominal power	100000W		110000W		120000W		125000W	
Max. AC apparent power	110000VA		121000VA		132000VA		137500VA	
Nominal AC voltage(range*)	400V/380V(340-440VAC)							
AC grid frequency (range*)	50/60 Hz(45~55Hz/55-65 Hz)							
Max. output current	158.8A@400V 167.1A@380V		174.6A@400V 183.8A@380V		190.5A@400V 200.5A@380V		198.5A@400V 208.9A@380V	
Adjustable power factor	0.8leading ...0.8lagging							
THDi	<3%							
AC grid connection type	3W/N/PE							
Efficiency								
Max.efficiency					98.8%			
European efficiency	98.4%		98.5%		98.5%		98.5%	
MPPT efficiency					99.9%			
Protection devices								
DC reverse polarity protection					Yes			
DC switch					Yes			
AC/DC surge protection					Type II / Type II			
Insulation resistance monitoring					Yes			
AC short-circuit protection					Yes			
Ground fault monitoring					Yes			
String detection					Yes			
Anti PID function					Opt			
Arc fault detection (AFCI)					Opt			
General data								
Dimensions (W / H / D)					970/640/345mm			
Weight					84kg			
Operating temperature range					-30°C ... +60°C			
Nighttime power consumption					< 1W			
Topology					Transformerless			
Cooling					Smart Cooling			
Protection degree					IP66			
Relative humidity					0~100%			
Altitude					4000m			
DC connection					H4/MC4 (Max.6mm²)			
AC connection					OT Terminal (Max. 240mm²)			
Display					LED/WIFI+APP			
Interfaces: RS485 / USB /PLC/GPRS/4G/WIFI					Yes/Yes/Optional/Optional/Optional/Optional			
Warranty: 5 years / 10 years					Yes /Optional			
CE,IEC62116, IEC61727, CQC, VDE0126, VFR2019, EN50549-1/2, C10/C11, UNE206007, G99 CEI 0-21/0-16, N4105&N4110, UNE206006,MEA, PEA, KSC8565								

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

MAX 185~253K TL3-X HV



- Up to 15 MPPTs, fuse free design
- MAX efficiency 99%, high yield
- Smart I/V scan and diagnosis
- Intelligent string monitoring
- DC side 2 in 1 connection enabled
- Optional Anti-PID/Night SVG/AFCI function
- Data storage up to 25 years

GROWATT · PRODUCT

Datasheet	MAX 185KTL3-X HV		MAX 216KTL3-X HV		MAX 250KTL3-X HV		MAX 253KTL3-X HV	
Input data (DC)								
Max. DC voltage	1500V							
Start voltage	500V							
Nominal voltage	1080V							
MPP voltage range	500V-1500V							
No. of MPP trackers	9		9		12		15	
No. of PV strings per MPP tracker	2							
Max. input current per MPP tracker	30A							
Max. short-circuit current per MPP tracker	50A							
Output data (AC)								
AC nominal power	185KW		216KW		250KW		253KW	
Max. AC apparent power	185KVA@30°C 175KVA@40°C 160KVA@50°C		216KVA@30°C 200KVA@40°C 192KVA@50°C		250KVA@30°C 230KVA@45°C 220KVA@50°C		253KVA@30°C 230KVA@45°C 220KVA@50°C	
Nominal AC voltage (range*)	800V (640-920V)							
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)							
Max. output current	133.5A		155.9A		180.4A		182.6A	
Adjustable power factor	0.8leading ...0.8lagging							
THDI	<3%							
AC grid connection type	3W+PE							
Efficiency								
Max. efficiency	99.0%							
European efficiency	98.7%		98.7%		98.7%		98.5%	
MPPT efficiency	99.9%							
Protection devices								
DC reverse polarity protection	Yes							
DC switch	Yes							
AC/DC surge protection	Type II / Type II							
Insulation resistance monitoring	Yes							
AC short-circuit protection	Yes							
Ground fault monitoring	Yes							
Grid monitoring	Yes							
Anti-islanding protection	Yes							
Residual-current monitoring unit	Yes							
String monitoring	Yes							
AFCI protection	Optional							
Anti-PID function	Optional							
LVRT	Yes							
HVRT	Yes							
Night SVG	Optional							
General data								
Dimensions (W / H / D)	1070/675/340mm							
Weight	95kg		95kg		99kg		109kg	
Operating temperature range	-30°C ... +60°C							
Nighttime power consumption	< 1W							
Topology	Transformerless							
Cooling	Smart air cooling							
Protection degree	IP66							
Relative humidity	0-100%							
Altitude	4000m							
DC connection	Staubli MC4/Amphenol UTX							
AC connection	OT Terminal connectors (Max. 300mm²)							
Display	LED/WIFI+APP							
Interfaces: RS485/USB / PLC/4G/GPRS	Yes/Yes/Optional/Optional/Optional							
Warranty: 5 years / 10 years	Yes /Optional							
CE, IEC62116/61727, IEC60068/61683, IEC60529, PEA, MEA, VDE0126, Greece, NRS097-2-1:2017, CEA2019								

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

WIT 50-100K TL3-H-MV



- Scalable system configuration, extend to 300kW
- Support EPS function and black start
- 100% unbalanced load when backup
- 110% continuous AC overloading capacity
- Support remote control of DG
- Multiple MPPTs input
- Grid-support functions

Datasheet	WIT 50KTL3-H WIT 50KTL3-H-EP	WIT 63KTL3-H WIT 63KTL3-H-EP	WIT 75KTL3-H WIT 75KTL3-H-EP	WIT 100KTL3-H WIT 100KTL3-H-EP
Input data (PV)				
Max. recommended PV power(for module STC)	109200W	124800W	156000W	156000W
Start voltage	195V			
Nominal voltage	550V			
Max. Input Voltage	1000V			
MPP voltage range	180V-800V			
Max. input current per MPP tracker	32A			
Max. short-circuit current per MPP tracker	40A			
No. of PV strings per MPP tracker	2			
No. of MPP trackers	7	8	10	10
Output data (AC)				
AC nominal power	50000W	63000W	75000W	100000W
Max. AC apparent power	55KVA	69.3KVA	82.5KVA	110KVA
Nominal AC voltage	380/400/415V			
AC voltage range	-15%~+10%			
AC grid frequency	50/60 Hz			
AC grid frequency/range	45-55Hz/55-65Hz			
Max. output current	83.3A@380V 79.7A@400V	105A@380V 100.4A@400V	125A@380V 119.5A@400V	166.7@380V 159.4A@400V
Adjustable power factor	-1 ... +1			
THDi	<3%			
AC grid connection type	3P3W+PE/3P4W+PE			
Battery data (DC)				
Continuous charging and discharging power	56.7KW	71.4KW	85.1KW	113.5KW
Battery voltage range	600-1000V (for 3P3W) / 680-1000V (for 3P4W)			
Recommended battery voltage	768V			
Max charging and discharging current	83.3A	105A	125A	167A
BMS communication	RS485/CAN			
Backup power (AC)				
Rated AC output power	50KW	63KW	75KW	100KW
Max. AC apparent power	60KVA	75.6KVA	90KVA	120KVA
Rated AC output voltage	220V/230V/240V/380V/400V/415V			
Nominal AC output frequency	50/60 Hz			
Load connection	3W+N+PE			
Max. output current	90.9A	114.5A	136.7A	181.8A
THDv	<3% (Linear load)			
Load unbalance	100% three-phase unbalanced			
Overload	<110%: Continues 110%~120%:<10min >120%:200ms			
Efficiency				
Max. efficiency	98.0%			
MAX. Battery charge/discharge efficiency	98.0%			
Protection devices				
DC reverse polarity protection	Yes			
Battery reverse protection	Yes			
AC/DC surge protection	Class II			
Insulation resistance monitoring	Yes			
Ground fault monitoring	Yes			
Grid monitoring	Yes			
Residual-current monitoring unit	Yes			
AC short-circuit protection	Yes			
Strings Monitoring	Yes			
Anti-islanding protection	Yes			
PID Protection	Yes			
AFCI Function	Opt			
General				
Dimensions (W / H / D)	820/1350/510mm			
Weight	143kg	143kg	150kg	150kg
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Operating temperature range	- 30 °C~60 °C (> 50°C, derating)			
Relative humidity	0~100%			
Altitude	4000m			
Topology	Transformerless			
Cooling	Smart air cooling			
IP degree	IP65			
Display	OLED+LED/WIFI+APP			
Interfaces: RS485/CAN/USB	Yes			
Interfaces: WIFI/4G/LAN-X	Opt			
Warranty (5/10 years)	Yes/Opt			
GB/T 34120-2017, IEC/EN61000-6-1, IEC/EN61000-6-3, IEC/EN62477-1, IEC/EN62109-1, IEC/EN62109-2, IEC62116, IEC61727, G99:2020, EN50549-1, VDE 4105, VDE 0124, UL1741, IEEE1547				

* The parameter of backup power is only available for WIT 50-100KTL3-H-EP model.
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SPH 3000~6000TL BL-UP



- Smart load management via dry contact
- UPS function, 10ms transition
- Scalable system configuration
- VPP interface ready
- Remote smart O&M
- 2 DC/AC Ratio

GROWATT · PRODUCT

Datasheet	SPH3000TL BL-UP	SPH3600TL BL-UP	SPH4000TL BL-UP	SPH4600TL BL-UP	SPH5000TL BL-UP	SPH6000TL BL-UP
Input data(PV)						
Max. recommended PV power (for module STC)	6000W	7200W	8000W	9200W	10500W	11200W
Max. DC voltage	550V					
Start voltage	120V					
MPP voltage range	120-550V/360V					
No. of MPP trackers	2					
No. of PV strings per MPP tracker	1					
Max. input current per MPP tracker	13.5A					
Max. short-circuit current per MPP tracker	16.5A					
AC nominal power	3000W	3680W	4000W	4600W	5000W	6000W
Max. AC apparent power	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA
Nominal AC voltage (range)	230V/ (180Vac-270Vac)					
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Max. output current	16A	16A	22A	22A	27A	27A
Adjustable power factor	0.8leading...0.8lagging					
THDi	<3%					
AC grid connection type	Single phase					
Battery data (DC)						
Battery voltage range	42~59V					
Max charging and discharging current	66A	75A	85A	85A	85A	85A
Continuous charging and discharging power	3000W	3680W	4000W	4000W	4000W	4000W
Type of battery	Lithium /Lead-acid					
Backup power(AC)						
Max. AC output power	3000W	3680W	4000W	4000W	4000W	4000W
Max. output current	17.4A					
Nominal AC output voltage	230Vac					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<10ms					
Efficiency						
MAX. efficiency	97.20%	97.20%	97.30%	97.40%	97.50%	97.60%
European efficiency	97%	97%	97.10%	97.10%	97.20%	97.20%
MPPT efficiency	≥99.5%					
Protection devices						
DC switch	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Yes					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
General data						
Dimensions (W / H / D)	458/565/188mm					
Weight	31kg					
Operating temperature range	-25°C ... +60°C					
Nighttime power consumption	< 10 W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	2000m					
PV DC Connection	H4/MC4(Optional)					
Battery DC Connection	OT Terminal					
AC connection	Connector					
Display	LCD+LED					
Interfaces:RS485/CAN/USB	Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty: 5 years / 10 years	Yes/Optional					
CE, IEC62109, G98/G99, VDE0126-1-1, AS4777, CEI 0-21, VDE-AR-N4105, UTE C 15-712 EN50549, IEC 61727, IEC 62116, IEC 62040, C10/11, NRS 097-2-1						

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

SPH 10000TL-X



- Max. 6 units in parallel in both on/off-grid modes
- UPS function, 10ms transition
- 1.5 DC/AC Ratio with 3 Mpppts
- Up to 200A charging/discharging current
- Support DC-coupled, AC-coupled, AC-retrofit applications
- Type II Surge protection for DC and AC sides
- Support charge from diesel generator
- Support both single phase and split phase application

Datasheet	SPH 10000TL-X
Input data (DC)	
Max. recommended PV power (for module STC)	15000W
Max. DC voltage	525V
Start voltage	150V
MPP voltage range	150V-425V/370V
No. of MPP trackers	3
No. of PV strings per MPP tracker	2
Max. input current per MPP tracker	22A
Max. short-circuit current per MPP tracker	27A
Output data (AC)	
AC nominal power	10000W
Max. AC apparent power	10000VA
Nominal AC voltage (range*)	230V, 120V/240V Split (180Vac - 280Vac)
AC grid frequency (range*)	50Hz/60Hz
Max. output current	50A
Adjustable power factor	1.0leading...1.0lagging
THDI	<3%
AC grid connection type	Single /Split phase
Battery data (DC)	
Battery voltage range	40~60V
Max charging and discharging current	200A
Continuous charging and discharging power	10000W
Type of battery	Lithium /Lead-acid
Backup power (AC)	
AC nominal output power	10000W
Nominal AC output voltage	230V, 120V/240V Split
Nominal AC output frequency	50/60Hz
Switch time	<10ms
Efficiency	
peak. efficiency	97.50%
CEC weighted efficiency	97%
MPPT efficiency	≥99.5%
Protection devices	
PV Switch	yes
AC over current protection	yes
AC over voltage protection	yes
Ground fault monitoring	yes
Grid monitoring	yes
Anti-islanding protection	yes
Residual-current monitoring unit	yes
Insulation resistance monitoring	yes
AFCI Protection	yes
Surge protection	DC Type II / AC Type II
General data	
Dimensions (W / H / D)	440×720×240mm/17.32×28.34×9.44 inches
Weight	34kg/74.8lbs
Operating temperature range	-25°C ... +60°C (-13...+140°F) with derating above 45°C /113°F
Noise emission (typical)	≤ 30 dB(A)
Self-Consumption <	< 60 W
Topology	Transformerless
Cooling	Smart cooling
Protection degree	Ip65/NEMA 4
Relative humidity	0~100%
Altitude	2000m
DC connection	Quick Connector
Display	LCD
Interfaces: RS485/CAN/USB	yes
Communication	WiFi/4G cellular (Opt)
Warranty(5/10 years)	Yes/Opt

IEEE 1547, CA RULE21 , RULE14(HECO Compliant), UL1741, UL1741SA/SB, CSA C22.2, PREPA, UL1699B, UL1741 CRD, IEC62109-1, IEC62109-2,FCC Part15 Class B, Sunspec

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SPH 4000~10000 TL3 BH-UP



- 100% three-phase imbalance output
- Smart phase-level power export limitation
- Wide battery voltage 100-550V
- UPS function, 10ms transition
- Scalable system configuration
- VPP interface ready
- DC/AC type II SPD
- 1.5 DC/AC Ratio



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Datasheet	SPH 4000TL3 BH-UP	SPH 5000TL3 BH-UP	SPH 6000TL3 BH-UP	SPH 7000TL3 BH-UP	SPH 8000TL3 BH-UP	SPH 10000TL3 BH-UP
Input data(PV)						
Max. recommended PV power (for module STC)	6000W	7500W	9000W	10500W	12000W	15000W
Max. DC voltage	1000					
Start voltage	120V					
MPP voltage range	120V-1000V/600V					
No. of MPP trackers	2					
No. of PV strings per MPP tracker	1					
Max. input current per MPP tracker	13.5A					
Max. short-circuit current per MPP tracker	16.9A					
Output data(AC)						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage (range*)	230V/400V (310~476V)					
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Adjustable power factor	0.8leading...0.8lagging					
THDI	<3%					
AC grid connection type	3W+N+PE					
Battery data (DC)						
Battery voltage range	100~550V					
Max charging and discharging current	25A					
Continuous charging and discharging power	4000W	5000W	6000W	7000W	8000W	10000W
Type of battery	Lithium battery					
Backup power(AC)						
Max. AC output power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Nominal AC output voltage	230V/400V					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<10ms					
Efficiency						
MAX. efficiency	97.6%	97.8%	98.0%	98.2%	98.2%	98.2%
European efficiency	97.0%	97.2%	97.3%	97.4%	97.4%	97.5%
Protection devices						
DC switch	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Type II					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
General data						
Dimensions (W / H / D)	505/453/198mm					
Weight	30kg					
Operating temperature range	-25 °C ... +60 °C					
Nighttime power consumption	<13W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	3000m					
DC connection	H4 / MC4 (Optional)					
AC connection	Connector					
Display	LCD+LED					
Interfaces: RS485/CAN/USB	Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty: 5 years / 10 years	Yes / Optional					

CE, IEC62109, IEC 62040, VDE-AR-N 4105, VDE 0126, UTE C 15-712, C10/C11 · EN50549, CEI 0-21, CEI 0-16, IEC62116, IEC61727, AS/NZS 4777 , G98, TOR Erzeuger

* The AC Voltage Range may vary depending on specific country grid standard.

ARK LV Battery System



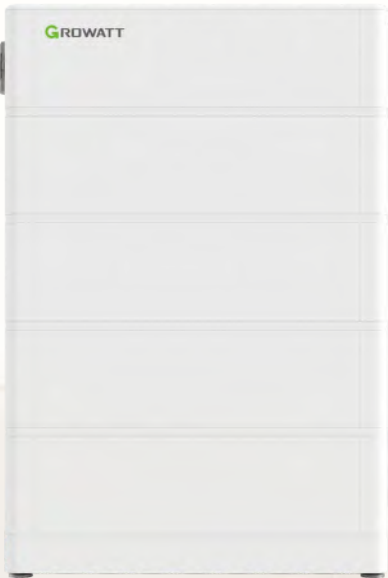
- Flexible capacity options, 2.56kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Remote firmware upgrade

GROWATT · PRODUCT

Datasheet	ARK 2.5L	ARK 5.1L	ARK 7.6L	ARK 10.2L	ARK 12.8L	ARK 15.3L	ARK 17.9L	ARK 20.4L	ARK 23.0L	ARK 25.6L
System Demo										
Battery Module	ARK 2.5L-A1 (2.56kWh, 51.2V, 28kg)									
Number of Modules	1	2	3	4	5	6	7	8	9	10
Energy Capacity	2.56kWh	5.12kWh	7.68kWh	10.24kWh	12.8kWh	15.35kWh	17.92kWh	20.48kWh	23.04kWh	25.64kWh
Usable Capacity	2.30kWh	4.6kWh	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh	18.43kWh	20.73kWh	23.04kWh
Dimension (W/D/H)	650/260/185mm	650/260/365mm	650/260/545mm	650/260/725mm	650/260/905mm	650/260/1085mm	650/260/1265mm	650/260/1445mm	650/260/1625mm	650/260/1805mm
Weight	28kg	56kg	84kg	112kg	140kg	168kg	196kg	224kg	252kg	280kg
Standard Charge/Discharge Current	25A	50A	75A	100A	100A	100A	100A	100A	100A	100A
General										
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)									
Nominal Voltage	51.2V									
Operating voltage Range	47.2 - 56.8V									
IP Protection	IP65									
Installation	Wall-mounted or Floor installation*1									
Operation Temperature	-10~50°C*2									
Features										
BMS Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature measurement									
Communication Port	CAN									
Warranty: 5 years /10 years	Yes/optional									
Certification	IEC62619 (Cell&Pack), CE, CEC, RCM, UN38.3									

*1 Floor installation requires extra base (W/D/H=650/260/80 mm)
*2 Battery discharge: -10°C ~ 50°C, battery charge: 0°C ~ 50°C
*ARK series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model ARK battery.
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ARK HV Battery System



- Flexible capacity options, 7.68kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Remote firmware upgrade

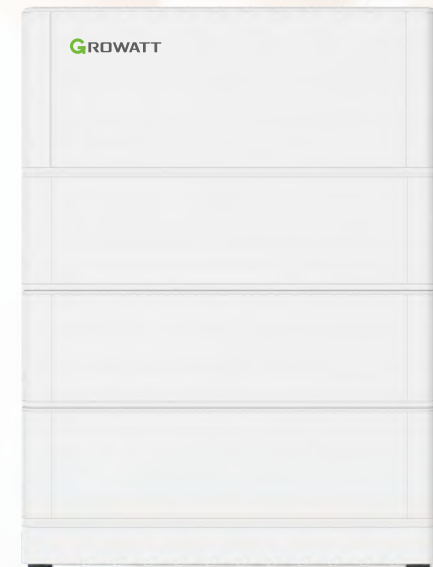


GROWATT · PRODUCT

Datasheet	ARK 7.6H	ARK 10.2H	ARK 12.8H	ARK 15.3H	ARK 17.9H	ARK 20.4H	ARK 23.0H	ARK 25.6H
System Demo								
Battery Module	ARK 2.5H-A1 (2.56kWh, 51.2V, 28kg)							
Number of Modules	3	4	5	6	7	8	9	10
Energy Capacity	7.68kWh	10.24kWh	12.8kWh	15.36kWh	17.92kWh	20.48kWh	23.04kWh	25.6kWh
Usable Capacity	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh	18.43kWh	20.73kWh	23.04kWh
Nominal Voltage	153.6V	204.8V	256V	307.2V	358.4V	409.6V	460.8V	512V
Operating Voltage Range	141.6~170.4V	188.8~227.2V	236-284V	283.2~340.8V	330.4~397.6V	377.6~454.4V	424.8~511.2V	472~568V
Dimension (W/D/H)*1	650/260/725mm	650/260/905mm	650/260/1085mm	650/260/1265mm	650/260/1445mm	650/260/1625mm	650/260/1805mm	650/260/1985mm
Weight	91 kg	118kg	145kg	172kg	199kg	226kg	253kg	280kg
General								
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)							
Standard Charge/Discharge Current	25A/0.5C							
IP Protection	IP65							
Installation	Wall-mounted or Floor installation* 2							
Operation Temperature	-10~50°C* 3							
Warranty	10 Years							
BMS Controller	HVC 60050-A1							
Weight	8kg							
Communication Port	CAN							
Dimension(W/D/H)	650/260/185 mm							
BMS Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature measurement							
Certification & Licensing	IEC62619(Cell&Pack), CE, CEC, RCM, UN38.3							

*1 Include BMS controller
*2 Floor installation requires extra base (W/D/H=650/260/80 mm)
*3 Battery discharge: -10°C ~ 50°C, battery charge: 0°C ~ 50°C
*ARK series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model ARK battery.
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ARK XH Battery System



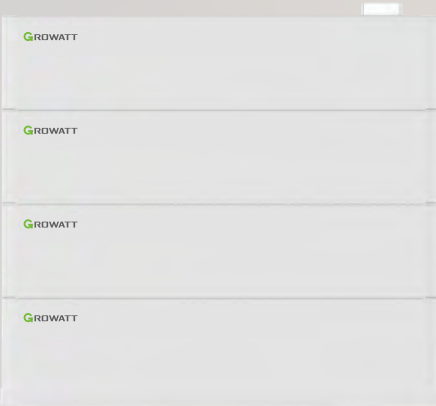
- Compatible with MIN-XH series inverter
- Flexible capacity options, 5.12kWh to 17.92kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Remote firmware upgrade

GROWATT · PRODUCT

Datasheet	ARK 5.1XH	ARK 7.6XH	ARK 10.2XH	ARK 12.8XH	ARK 15.3XH	ARK 17.9XH
System Demo						
Power module	BDC 95045-A1					
Number of power modules	1					
Battery Module	ARK 2.5H-A1 (2.56kWh, 51.2V, 28kg)					
Number of Modules in Series	2	3	4	5	6	7
Energy Capacity	5.12kWh	7.68kWh	10.24kWh	12.8kWh	15.36kWh	17.92kWh
Usable Capacity	4.6kWh	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh
Max. output power*1	2.5kW	3.75kW	5kW	6.25kW	7.5kW	8.75kW
Peak output power	5kW,10s	7.5kW,10s	10kW,10s	12.5kW,10s	15kW,10s	17.5kW,10s
Dimension (W/D/H)*2	650/260/630mm	650/260/815mm	650/260/1000mm	650/260/1185mm	650/260/1370mm	650/260/1555mm
Weight	71kg	99kg	127kg	155kg	183kg	211kg
Nominal voltage (single phase system)	360V	360V	360V	360V	380V	440V
Operating voltage range (single phase system)*3	360V-550V	360V-550V	360V-550V	360V-550V	380V-550V	440V-550V
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)					
IP Protection	IP65					
Installation	Wall-mounted or Floor installation*4					
Operation Temperature	-10°C ...~50°C*5					
Relative humidity	5%~95%					
Cooling	Natural					
Power Module	BDC 95045-A1					
Dimension(W/D/H)	650/260/260mm					
Weight	15kg					
Communication Port	CAN/RS485					
BAT voltage range	90V-400V					
Power module output voltage	360V-550V					
Maximum BAT current	25A					
Peak BAT current	50A					
Monitoring Parameters	SOC, System voltage, current, cell voltage,cell temperature, PCBA temperature					
Certification & Licensing	IEC62619(Cell&Pack)/CE/CEC/RCM/UN38.3					

*1 Depend on the max. battery charge/discharge power of the inverter.
*2 Include power module (BDC 95045-A1)
*3 Single phase energy storage system supports 2~7pcs battery modules in series
*4 Floor installation requires extra base (W/D/H=650/260/80 mm)
*5 Battery discharge: -10°C ~ 50°C, battery charge: 0°C ~ 50°C
*ARK series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model ARk battery.
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AXE 5.0L Modular Battery



- Flexible capacity options, 5kWh to 400kWh
- Excellent safety of cobalt free LiFePO4 battery
- Stacked installation without cable connection
- Remote firmware upgrade



Datasheet	AXE 5.0L	AXE 10.0L	AXE 15.0L	AXE 20.0L	AXE 25.0L	AXE 30.0L	AXE 35.0L	AXE 40.0L	AXE 45.0L	AXE 50.0L
System Demo										
Battery Module	AXE 5.0L - C1 (5.0kWh, 51.2V, 45kg)									
Number of Modules	1	2	3	4	5	6	7	8	9	10
Energy Capacity	5.0kWh	10.0kWh	15.0kWh	20.0kWh	25.0kWh	30.0kWh	35.0kWh	40.0kWh	45.0kWh	50.0kWh
Dimension (W/D/H)*1	650/350/165mm	650/350/305mm	650/350/445mm	650/350/585mm	650/350/725mm	650/350/865mm	650/350/1005mm	650/350/1145mm	650/350/1285mm	650/350/1425mm
Weight	47kg	92kg	137kg	182kg	227kg	272kg	317kg	362kg	407kg	452kg
Max Charge	60A	120A	150A	150A	150A	150A	150A	150A	150A	150A
Max Discharge	60A	120A	150A	150A	150A	150A	150A	150A	150A	150A
General										
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)									
Nominal Voltage	51.2V									
Operating voltage Range	48 - 57.6V									
IP Protection	IP20									
Installation	Floor installation*2									
Operation Temperature	0~50℃									
Features										
DoD	92%									
Multi-cluster AXE battery system in parallel	Max. 8 clusters (Max. 400kWh)									
BMS Monitoring Parameters	SOC, System voltage, Current, Cell voltage, Cell temperature, PCBA temperature measurement									
Communication Port	CAN/RS485									
Warranty(5/10 years)	Yes/Opt									
Certification										
CE, ROHS, UL1973+FCC, UN38.3+PI965										

*1 The system dimension is included with the battery base
*2 Floor installation requires extra base (W/D/H=654/353/25mm)
*AXE series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model AXE battery.

Hope 4.8L-C1 Lithium Battery



- Compact size and easy installation
- High energy density and efficiency
- Excellent safety of LiFePO4 battery
- DoD up to 93%



Datasheet	Hope 4.8L-C1
Battery Data	
Nominal Voltage	48V
Normal Capacity	4.8kWh
Usable Capacity	4.46kWh
Operating Voltage	42 ~ 54V
Rated Charging Current	50A
Rated Discharging Current	100A
Max. Discharging Power	4.5kW
Peak Discharging Power	6.1kW/6s
Max Charging Power	4.5kW
General Data	
Dimension (W/D/H)	442/130/480mm
Weight	40Kg
IP Protection	IP20
Working Temperature	-10°C ~ +55°C
Storage Temperature	-20°C ~ +45°C
Features	
DOD	93%
Parallel Connection	Max.16packs
Communication Port	CAN/RS485
Warranty	5 Years
CE , UN38.3	

Growatt Smart EV Charger

THOR 03AS-S, THOR 07AS-S/P
(Single Phase)



- Compatible with all branded EV
- Integration in existing & new-installed PV system
- Charge EV with 100% renewable energy by surplus solar power
- APP smart control & smart scheduling
- IP65 design for indoor or outdoor use



GROWATT · PRODUCT

Datasheet*	THOR 03AS-S (WIFI/4G)		THOR 07AS-P (WIFI/4G)	THOR 07AS-S (WIFI/4G)
Input & Output				
Input voltage	230V AC			
Input frequency	50Hz			
Output voltage	230V AC			
Max. output power	3.6KW	7KW	7KW	
Max. output current	16A	32A	32A	
Charging interface type	IEC 62196-2, Type 2			
Connection	Socket	Plug	Socket	
Cable Length	/	5m	/	
Protection				
Over voltage protection	Yes			
Under voltage protection	Yes			
Over load protection	Yes			
Short circuit protection	Yes			
Earth leakage protection	Yes			
Over-temp protection	Yes			
Lightning protection	Yes			
Function and Accessory				
Ethernet	Yes			
LCD	No			
RCD	Type A + 6mA DC fault current protection (Equivalent to Type B)			
Charge activation	APP	APP/RFID(opt)	APP/RFID(opt)	
LED Indicator light	Yes			
Emergency stop button	Yes			
Multiple workmodes	Fast/ PV Linkage/ Off-peak/ Load balancing			
General				
Protection degree	IP65			
Environment temperature	-20°C ~ +65°C			
Relative humidity	5-95% non-condensing			
Maximum altitude	<2000m			
Cooling	Natural cooling			
Standby power consumption	<8W			
Dimension (W/H/D)	240/380/164mm			
Weight	7kg	9.5kg	7kg	
Wall-mounting bracket/ Ground-mounting pole	Yes/Opt			
CE (LVD&EMC, EN 61851-1, EN61851-22, EN61000-6-3, EN61000-6-1), IEC62196				

* Each model has 4G or WIFI version for flexible communication.

Growatt Smart EV Charger

THOR 11AS-S/P, THOR 22AS-S/P
(Three Phase)



- Compatible with all branded EV
- Integration in existing & new-installed PV system
- Charge EV with 100% renewable energy by surplus solar power
- APP smart control & smart scheduling
- Ip65 design for indoor or outdoor use



GROWATT · PRODUCT

Datasheet*	THOR 11AS-P (WIFI/4G)		THOR 11AS-S (WIFI/4G)		THOR 22AS-P (WIFI/4G)		THOR 22AS-S (WIFI/4G)	
Input & Output								
Input voltage	400V AC							
Input frequency	50Hz							
Output voltage	400V AC							
Max. output power	11KW				22KW			
Max. output current	16A				32A			
Charging interface type	IEC 62196-2, Type 2							
Connection	Plug		Socket		Plug		Socket	
Cable Length	5m		/		5m		/	
Protection								
Over voltage protection	Yes							
Under voltage protection	Yes							
Over load protection	Yes							
Short circuit protection	Yes							
Earth leakage protection	Yes							
Over-temp protection	Yes							
Lightning protection	Yes							
Function and Accessory								
Ethernet	Yes							
LCD	Yes							
RCD	Type A + 6mA DC fault current protection (Equivalent to Type B)							
Charge activation	APP/RFID							
LED Indicator light	Yes							
Emergency stop button	Yes							
Multiple workmodes	Fast/ PV Linkage/ Off-peak/ Load balancing							
General								
Protection degree	IP65							
Environment temperature	-20°C ~ +65°C							
Relative humidity	5-95% non-condensing							
Maximum altitude	<2000m							
Cooling	Natural cooling							
Standby power consumption	<8W							
Dimension (W/H/D)	295/466/189mm							
Weight	12.5kg		10kg		12.5kg		10kg	
Wall-mounting bracket/ Ground-mounting pole	Yes/Opt							
CE (LVD&EMC, EN 61851-1, EN61851-22, EN61000-6-3, EN61000-6-1), IEC62196								

* Each model has 4G or WIFI version for flexible communication.

SPF 3500~5000ES



- Integrated MPPT charge controller.
- Equalization charging function.
- Work with or without battery
- PV input voltage up to 450VDC.
- Configurable grid or solar input priority.
- Optional WIFI/GPRS remote monitoring
- Support parallel operation for capacity expansion up to 30kW.
- PV and grid power the load jointly if PV energy is insufficient.
- Flexibly schedule the Inverter charging and discharging time.



GROWATT · PRODUCT

Datasheet	SPF 3500 ES	SPF 5000 ES
Battery Voltage	48VDC	
Battery Type	Lithium/Lead-acid	
INVERTER OUTPUT		
Rated Power	3500VA/ 3500W	5000VA/ 5000W
Parallel Capability	Yes, 6 units maximum	
AC Voltage Regulation (Battery Mode)	230VAC ± 5% @ 50/60Hz	
Surge Power	7000VA	10000VA
Efficiency (Peak)	93%	
Waveform	Pure sine wave	
Transfer Time	10ms typical, 20ms Max	
SOLAR CHARGER		
Maximum PV Array Power	4500W	6000W
MPPT Range @ Operating Voltage	120VDC ~ 430VDC	
Number of Independent MPP Trackers/ Strings Per MPP Tracker	1/1	
Maximum PV Array Open Circuit Voltage	450VDC	
Maximum Solar Charge Current	80A	100A
AC CHARGER		
Charge Current	60A	80A
AC Input Voltage	230 VAC	
Selectable Voltage Range	170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances)	
Frequency Range	50Hz/60Hz (Auto sensing)	
PHYSICAL		
Protection Degree	IP20	
Dimension (W/H/D)	330/485/135mm	330/485/135mm
Net Weight	11.5kg	12kg
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Altitude	<2000m	
Operating Temperature	0°C - 55°C	
Storage Temperature	-15°C - 60°C	

SPF 6000 ES Plus



- Plug-and-Play terminal for PV port
- Dual MPP trackers
- Maximum PV input voltage up to 500VDC
- Configurable grid or solar input priority
- Parallel for scalability
- Dust-proof filter for harsh environment
- Two AC input terminals with integrated transfer switch

GROWATT · PRODUCT

Datasheet	SPF 6000 ES Plus
Battery Voltage	48VDC
Battery Type	Lithium/Lead-acid
Inverter Output	
Rated Power	6000VA/6000W
Parallel Capability	Yes, 6 units maximum
AC Voltage Regulation (Battery Mode)	230VAC ± 5% @ 50/60Hz
Surge Power	12000VA
Efficiency (Peak)	93%
Waveform	Pure sine wave
Transfer Time	10ms typical, 20ms Max
Solar Charger	
Maximum PV Array Power	8000W
MPPT Range @ Operating Voltage	120VDC ~ 450VDC
Number of Independent MPP Trackers/ Strings Per MPP Tracker	2/1
Max. Input current per MPP tracker	16A
Maximum PV Array Open Circuit Voltage	500VDC
Maximum Solar Charge Current	100A
AC Charger	
Charge Current	80A
AC Input Voltage	230VAC
Selectable Voltage Range	170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances)
Frequency Range	50Hz/60Hz (Auto sensing)
Protection Degree	
Protection Degree	IP20
Dimension (W/H/D)	460/395/132mm
Net Weight	13.5kg
Operating Environment	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Altitude	<2000m
Operating Temperature	0°C - 55°C
Storage Temperature	-15°C - 60°C

SPF 2000~5000TL HVM



- Integrated MPPT charge controller
- Configurable grid or solar input priority
- Optional WIFI/ GPRS remote monitoring
- Parallel for scalability

GROWATT · PRODUCT

Datasheet	SPF 2000TL HVM-24	SPF 3000TL HVM-24	SPF 2000TL HVM-48	SPF 3000TL HVM-48	SPF 5000TL HVM/HVM-P
Battery Voltage	24VDC		48VDC		
Battery Type	Lithium/Lead-acid				
INVERTER OUTPUT					
Rated Power	2000VA/ 2000W	3000VA/ 3000W	2000VA/ 2000W	3000VA/ 3000W	5000VA/ 5000W
Parallel Capability	No				No/ Yes, 6 units maximum
AC Voltage Regulation (Battery Mode)	230VAC ± 5% @ 50/60Hz				
Surge Power	4000VA	6000VA	4000VA	6000VA	10000VA
Efficiency (Peak)	93%				
Waveform	Pure sine wave				
Transfer Time	10ms typical, 20ms Max				
SOLAR CHARGER					
Maximum PV Array Power	1500W		1800W		4500W
MPPT Range @ Operating Voltage	30VDC ~ 80VDC		60VDC ~ 115VDC		
Maximum PV Array Open Circuit Voltage	102VDC		145VDC		
Number of Independent MPP Trackers/ Strings Per MPP Tracker	1/1				
Maximum Solar Charge Current	50A		30A		80A
Maximum Efficiency	98%				
AC CHARGER					
Charge Current	30A		15A		60A
AC Input Voltage	230 VAC				
Selectable Voltage Range	170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances)				
Frequency Range	50Hz/60Hz (Auto sensing)				
PHYSICAL					
Protection Degree	IP20				
Dimension (W/H/D)	315/400/130mm				350/455/130mm
Net Weight (kgs)	8	8.5	8	8.5	11.5
OPERATING ENVIRONMENT					
Humidity	5% to 95% Relative Humidity(Non-condensing)				
Altitude	<2000m				
Operating Temperature	0°C - 55°C				
Storage Temperature	-15°C - 60°C				

SPF 3000T HVM-G2



- Industry-leading efficiency up to 95%
- Extended surge rating suitable for motor loads
- Wide PV input voltage range up to 250Vdc
- Parallel for high scalability
- Load segment control to maximize battery runtime for critical devices
- Warranty extend to 5 years

GROWATT · PRODUCT

Datasheet	SPF 3000T HVM-G2
Battery Voltage	48VDC
Battery Type	Lithium/Lead-acid
INVERTER OUTPUT	
Rated Power	3000VA/ 3000W
Parallel Capability	Yes, 6 units maximum
AC Voltage Regulation (Battery Mode)	230VAC ± 5% @ 50/60Hz
Surge Power	9000VA
Efficiency (Peak)	95%
Waveform	Pure sine wave
Transfer Time	10ms
SOLAR CHARGER	
Maximum PV Array Power	4500W
MPPT Range @ Operating Voltage	60VDC ~ 200VDC
Number of Independent MPP Trackers/ Strings Per MPP Tracker	1/1
Maximum PV Array Open Circuit Voltage	250VDC
Maximum Solar Charge Current	80A
Maximum Efficiency	97%
AC CHARGER	
Charge Current	40A
AC Input Voltage	230 VAC
Selectable Voltage Range	184-272 VAC (For Personal Computers) ; 154-272 VAC (For Home Appliances)
Frequency Range	50Hz/60Hz (Auto sensing)
PHYSICAL	
Protection Degree	IP20
Dimension (D/W/H)	225/300/550mm
Net Weight (kgs)	27
OPERATING ENVIRONMENT	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	-20°C - 50°C
Storage Temperature	-40°C - 60°C

- Automatically running convenience for customer operate
- MPPT efficiency up to 99%
- IP65 protection level suitable for outdoor harsh environment
- Wide PV input voltage up to 900V to reduce the BOS cost
- With full / empty water level and dry running protection
- Remote monitor and smart control system (optional)

GROWATT · PRODUCT

Datasheet	SPI 3000	SPI 4000	SPI 5500	SPI 7500	SPI 9200	SPI 11000	SPI 13000	SPI 15000	SPI 18500	SPI 22000
INVERTER OUTPUT										
Rated Output Power (W)	3000W	4000W	5500W	7500W	9200W	11000W	13000W	15000W	18500W	22000W
Max. Output Current (A)	5A	9.5A	13A	18.5A	21A	24A	28A	32A	38A	45A
Output Frequency (Hz)	0-50/60Hz									
Output Voltage (Vac)	3PH 380V									
SOLAR INPUT										
Max. Recommended PV Power	3600W	4800W	6600W	9000W	11000W	13200W	15600W	18000W	22200W	26500W
Recommend Pump Capacity	2.2KW(3HP)	3KW(4HP)	3.7KW(5HP)	5.5KW(7.5HP)	7.5KW(10HP)	9.2KW(12.5HP)	11KW(15HP)	13KW(17.5HP)	15KW(20HP)	18.5KW(25HP)
Max. DC Input Voltage (Vdc)	900V									
Qty. of PV Input Ports	2			3			5			
Recommnd MPP Voltage (Vdc)	500-680V									
MECHANICAL SPECIFICATIONS										
Protection Degree	IP65									
Weight	13.79kg			18.32kg			23.85kg			
Demension (W/H/D)	480/340 /157mm			530/370/171mm			570/410/178mm			
OPERATING ENVIRONMENT										
Altitude	<2000m									
Operation Temperature Range	-25℃ to 60℃									

SPI 750~4000 TL2-HV



- Automatically running convenience for customer operate
- MPPT efficiency up to 99%
- IP65 protection level suitable for outdoor harsh environment
- Wide PV input voltage up to 450V to reduce the BOS cost
- Built-in booster module, flexible solar panel configuration
- Support PV and AC double input
- With full / empty water level and dry running protection
- Natural Cooling, maintenance-free design
- Remote monitor and smart control system (optional)

GROWATT · PRODUCT

Datasheet	SPI 750TL2-HV	SPI 1500TL2-HV	SPI 2200TL2-HV	SPI 4000TL2-HV
INPUT DATA (DC)				
Max. PV Power	1000W	2100W	3100W	5500W
Max. DC Voltage	450V			
Start Voltage	80V			
MPP Voltage Range	100-400V			
No. of MPP Trackers	1			
No. of Pv Strings Per Mpp Tracker	1	1	1	2
Max. Input Current Per Mpp Tracker	9A	12A	12A	20A
INPUT DATA (AC)				
Nominal AC Voltage	220~240V(-15%~-+10%)			
Rated Input Current	9.5A	16A	24A	38A
AC Grid Frequency	47~63Hz			
AC Connection	L,N,PE			
OUTPUT DATA (AC)				
AC Nominal Power	750W	1500W	2200W	4000W
Rated Output Current	5.1A(1PH)/4.2A(3PH)	10.2A(1PH)/7.5A(3PH)	14A(1PH)/10A(3PH)	25A(1PH)/16A(3PH)
Nominal AC Voltage Range	0~220Vac			
AC Frequency	0-50/60 Hz			
AC Connection	1P2L(1PH)/3P3L(3PH)			
PERFORMANCE				
Control Mode	V/F			
Type of Motor	Asynchronous machine			
Pump capacity	550W	750W	1500W	3000W
GENERAL DATA				
Dimensions (W / H / D)	335/370/135mm	335/370/135mm	335/370/135mm	365/450/150mm
Weight	9.5kg	9.5kg	9.5kg	16.5kg
Operating Temperature Range	-25°C ... +60°C			
Cooling	Natural convection			
Protection Degree	IP65			
Relative Humidity	0-100%			
Altitude	2000m without derating			
DC Connection	H4/MC4(Optional)			
AC Connection	Connector			
Display	LCD			
Interfaces: Wi-Fi/ GPRS	Optional			

Growatt ShineWiFi-X



- Cable free, easy installation
- USB communication port
- Built-in memory for up to one month of data
- Online monitoring and maintenance



GROWATT · PRODUCT

Datasheet	ShineWiFi-X
Wireless Parameters	
Wireless standard	802.11 b/g/n
Frequency range	2.4GHz~2.5GHz (2412MHz~2484MHz)
Transmit power	802.11b: 16±2 dBm (@11Mbps) 802.11g: 14±2 dBm (@54Mbps) 802.11n: 13±2 dBm (@HT20, MCS7)
Receiver sensitivity	CCK, 1 Mbps : -90dBm CCK, 11 Mbps: -85dBm 6 Mbps (1/2 BPSK): -88dBm 54 Mbps (3/4 64-QAM): -70dBm HT20, MCS7 (65 Mbps, 72.2 Mbps): -67dBm
Hardware Parameters	
Data interface	USB
Operating voltage	5V(±5%)
Rated power	1.2W
Display	LED
Application Parameters	
Supported servers	ShineServer
Inverter communication	USB (Modbus RTU protocol)
Server communication	TCP (Modbus TCP protocol)
Max. communication range	50m
Configuration type	APP configuration
Data transmission interval	5 Minutes
Default server URL	server.growatt.com
General Data	
Dimensions(L/W/H)	135/79/29 mm
Weight	60g
Operating temperature range	-20 °C ~ +65 °C
Warranty	1 year
CE	

Growatt ShineWiFi-F



- Cable free, easy for installation
- Communication distance up to 50m
- Built-in memory for up to one month of data
- Online monitoring and maintenance

Datasheet	ShineWiFi-F
General Data	
Dimensions(L/W/H)	135/79/29mm
Weight	63g
Manual language	English, Chinese
Wireless Parameters	
Wireless type	WiFi
Wireless standard	802.11 b/g/n
Transmit power	802.11b: +20dBm(Max.); 802.11g: +18dBm(Max.); 802.11n: +15dBm(Max.)
Receiver sensitivity	802.11b: -89dBm(Max.); 802.11g: -81dBm(Max.); 802.11n: -71dBm(Max.)
Hardware Parameters	
Data interface	UART: 9600bps; Ethernet: 100Mbps
Operating voltage	5V (+/-15%)
Operating current	1A
Operating temperature	-20°C~+65°C
Storage temperature	-40°C~+70°C
Network type	AP (Access Point); station mode (with soft AP)
Security mechanisms	WEP / WPA-PSK / WPA2-PSK
Encryption	WEP64 / WEP128 / TKIP / AES
Application on Parameters	
Supported servers	ShineServer
Inverter communication	USB A-type
Sever Communication	WiFi via router (Modbus TCP protocol)
Supported Routers	Wireless router (Include 3G router)
User Configuration Interface	Wireless web server (Internet Browser)
Max. Communication Range	100m
Data transmission Interval	5 minutes
Default Server URL	server.growatt.com

Growatt Shine LAN-X



- Ethernet direct connection
- Plug and Play
- Online monitoring and maintenance
- Built-in memory for up to one month of data



GROWATT · PRODUCT

Datasheet	ShineLAN-X
Hardware parameters	
Data interface	USB
Nominal voltage	5V(±5%)
Nominal current	400mA
Nominal power	2W(MAX:3W)
Display	LED
Application parameters	
Supported Server	ShineServer
Inverter communication	USB(Modbus RTU protocol)
Server communication	TCP(Modbus TCP protocol)
Ethernet interface speed	10Mbps
Max. communication range	100m(Direct connection)
Configuration type	APP configuration
Data transmission interval	5 Minutes
Default server URL	server.growatt.com
General data	
Dimensions(L/W/H)	152/47/28mm
Weight	84g
Operating temperature range	-30°C ... +60°C
Environmental protection rating	IP65
CE, RoHS	

Growatt ShineLink-X



- Cable free, easy installation
- Dynamic IP, plug and play
- Communication distance up to 120m
- Support up to 8 devices
- Built-in memory for up to one month of data
- Online monitoring and maintenance

GROWATT · PRODUCT

Datasheet	ShineLink-X
Communication Interface	
RF433	Yes
RF433(No barrier wall)	Up to 120 m
RF433(two walls blocking)	20 m
Power Supply	
Power consumption	<2W standby, <5W peak
Voltage range	196V~250V
Frequency	50/60Hz
General Specifications	
Dimensions(L/W/H)	105/85/26mm
Weight	< 1kg
Mounting options	Tabletop/wall-mount
Protection degree	IP30
Display	LED
Ambient temperature range	-20 to 65 °C
Humidity	0-95% (non condensing)
Features	
Remote firmware upgrade	Yes
Max. number of devices to monitor	8(RF433)
Warranty	1 years
CE	

Growatt ShineMaster



- Local webserver for easy configuration
- Supports RS485,Ethernet, 4G communication
- Up to 64 inverters connection
- Multi-function and high performance



GROWATT · PRODUCT

Datasheet	ShineMaster		ShineMaster4G	
Hardware Parameter				
Power adapter	Input: 100-240V, 50/60Hz AC Output 5V(+/-15%), 1A DC			
Power consumption	2.5W			
Application Parameters				
Max.inverters connection	32		64	
Max. communication range	500m			
Communication with inverters	RS485 (Modbus RTU protocol)			
Communication with server	TCP(Modbus TCP protocol)			
Support network	Ethernet		4G	
Data transmission interval	5 Minutes			
Default server URL	server.growatt.com			
Supported servers	ShineServer			
General Data				
Dimensions(W/H/D)	130/84/25mm			
Weight	180g			
Language	English			
Mounting options	Wall-mounted			
Ambient temperature range	-30°C ~ +60°C			
Degree of protection	IP30			
Warranty	1 year			
CE				

Smart Energy Manager (SEM-E)



- Manage multiple solar and storage Inverters
- Online monitoring and export limitation for the whole system
- Flexible CTs for different project size
- RS485 and Ethernet connection



GROWATT · PRODUCT

Datasheet	Smart Energy Manager (SEM-E)	
System Size	50KW	100KW
Meter data		
Normal voltage	230/400Vac	
Voltage range(L-L)	173~400Vac	
Grid connection	3W/N/PE	
Normal frequency	50/60 Hz	
Frequency range	45~55Hz/55-65 Hz	
CT data		
Max.current (CT detection)	150A	250A
Max. input current (CT sencond side)	40mA	
Accuracy (@ rated CT current)	0.5	
CT aperture	24mm	
Communication		
RS485	Yes	
Ethernet	Yes	
Max.inverter number	10 pcs	
Communication distance	RS485: 500m Internet cable: 100m	
General Data		
Dimensions (W/H/D)	350/330/107mm	
Weight	6kg	
Operation temperature range	-25°C ... +60°C	
Cooling concept	Natural Cooling	
Environmental Protection Rating	IP65	
Relative humidity	0~100%	
CE		

Smart Energy Manager



- System self-consumption monitoring
- Export limitation for commercial projects
- Support online monitoring and online service
- Flexible CTs for different project size
- RS485 and Ethernet connection

GROWATT · PRODUCT

Datasheet	Smart Energy Manager				
System Size	100KW	300KW	600KW	1MW	2MW
Meier data					
Normal voltage	230/400Vac				
Voltage range(L-L)	180-540Vac				
Grid connection	3W+N+PE				
Normal frequency	50/60 Hz				
Frequency range	45~55Hz/55-65 Hz				
CT data					
Max. input current (CT sencond side)	5A				
Max.current (CT detection)	250A	600A	1200A	2000A	4000A
Accuracy (@ rated CT current)	0.5	0.5	0.5	0.5	0.2
Communication					
RS485	Yes				
Ethernet	Yes				
Max.inverter number	32				
Communication distance	Rs485: 500m Internet cable: 100m				
General Data					
Dimensions (W/H/D)	350/330/107mm				
Weight	6kg				
Operation temperature range	-25°C ... +60°C				
Cooling concept	Natural Cooling				
Environmental Protection Rating	IP65				
Relative humidity	0~100%				
Altitude	2000m				
CE					



NANYANG 100MW HILL PLANT

100MW ◀

Henan, China ◀

Growatt 40000TL3-S ◀



UKRAINE 5MW SOLAR PLANT

▶ 5MW

▶ Ukraine

▶ MAX 50KTL3 LV



VIETNAM 3MW SOLAR PLANT

- ▶ 3MW
- ▶ Vietnam
- ▶ MAX 80KTL3 LV



THAILAND 600KW SOLAR PLANT

- ▶ 600KW
- ▶ Thailand
- ▶ MAX 60KTL3 LV



THAILAND 134MW SOLAR PLANT

- ▶ 134MW
- ▶ Phitsanulok, Thailand
- ▶ Growatt 16700TL3-HE-TH



NETHERLANDS 500KW SOLAR SYSTEM

- ▶ 500KW
- ▶ Netherlands
- ▶ MAX 60KTL3 LV
MAX 70KTL3 LV



NETHERLANDS 500KW SOLAR SYSTEM

- 500KW ◀
- Netherlands ◀
- MAX 60KTL3 LV ◀



NETHERLANDS 200KW SOLAR PLANT

- ▶ 200KW
- ▶ Netherlands
- ▶ MAX 60KTL3 LV



DENMARK HOME STORAGE SYSTEM



- ▶ 3.6kW
- ▶ Denmark
- ▶ SPH6000+GBLI6531 Battery



HUNGARY HOME SOLAR SYSTEM

- ▶ 5kW
- ▶ Hungary
- ▶ MIN 5000TL-XE



- ▶ 3.6kW
- ▶ Italy
- ▶ MIN 3600TL-XE

